

SEVENTH ANNUAL REPORT
OF THE
MEDICAL OFFICER OF HEALTH
TO THE
COMBINED RURAL AND THE URBAN
SANITARY AUTHORITIES
OF THE
CITY AND COUNTY OF HEREFORD,
1880.

By H. VAVASOUR SANDFORD, M.D., &c.

HEREFORD
PRINTED AT THE OFFICES OF THE "HEREFORD TIMES."



Digitized by the Internet Archive
in 2017 with funding from
Wellcome Library

<https://archive.org/details/b29424100>

THE HEALTHINESS OF HEREFORDSHIRE OFFICIALLY DEMONSTRATED.

*Re-printed from the "Hereford Journal," of Saturday,
February, 12th, 1881.*

We have received the Registrar-General's usual quarterly returns, from which we cull the following information. It will be observed that the healthiness of Herefordshire is demonstrated in the most satisfactory and convincing manner.

In the United Kingdom the births of 264,562 children, and the deaths of 166,640 persons were registered in the three months ending 31st December, 1880. The recorded natural increase of population was thus 97,922. The resident population of the United Kingdom in the middle of 1880, is estimated at 34,505,043; that of England and Wales at 25,480,161; that of Scotland 3,661,292; and of Ireland, 5,363,590. The annual birth rate in the United Kingdom last quarter was 30.4 per 1,000, and the death rate 19.2. The marriage rate the quarter before last was 13.3 per 1,000. During the three months ending, September 95,324 people were married in England and Wales. The marriage rate was very low in the adjoining county of Shropshire, but there was a marked increase in the neighbouring county of Monmouthshire. The increase in Monmouthshire must be attributed to the improvement in the coal and iron trades. Last quarter the births were 207,643, showing a decline of no less than 9,373 on the corresponding quarter of 1879. In Herefordshire, Cumberland, and Westmoreland there was a slight improvement in the birth rate, but in all other parts of the country there was a depression. The death-rate in Herefordshire was very low, our own county coming third on the list. This is shown by the following paragraph:—"The annual death-rate among persons of both sexes in the several English counties ranged from 13.8 in Surrey, 14.3 in Dorsetshire, and 14.8 in Herefordshire, to 23.3 in Leicestershire, 23.7 in Nottinghamshire, and 24.2 in Lancashire."

It is remarkable how often Herefordshire figures in the general remarks with which the Registrar-General precedes his table of statistics. We find that our county compares admirably in the matter of infant mortality, being second on the list, the high fact which constitutes the county of Rutland being first. Rutlandshire is so small that really for purposes of comparison it should be taken out of the list, and for all practical purposes therefore Herefordshire may claim to have the lowest infant death-rate in the country. The Registrar-General says:—"The lowest infantile death-rates in counties last quarter were 86 in Rutlandshire, 95 in Herefordshire, and 102 in Berkshire; the highest were 167 in Northamptonshire and Durham, 177 in Nottinghamshire, and 180 in Leicestershire." Again in another matter we find Herefordshire practically the lowest, being beaten only by little Rutlandshire, for the return tells us that "the highest registration-county-rates were 4.45 in Durham, 4.10 in South Wales, and 4.00 in Northamptonshire, while the lowest were 1.13 in Herefordshire and 1.26 in Dorsetshire." These registration-county-rates, we may explain, refer to zymotic diseases.

In the matters of fever and measles, Herefordshire has literally the lowest rate, for in fever (which includes typhus, enteric fever, and simple continued fever) the county rates varied from 0.03 in Herefordshire to 0.97 in the East Riding, those being the two extremes; while the deaths from measles in Herefordshire are represented by the figures 0.00. In other words, no death occurred from measles in the whole county during that quarter. Taking whooping cough, again we find a like satisfactory state of affairs, no death having occurred from this distressing and frequently fatal complaint. The only county which enjoys a like distinction is—again—little Rutlandshire. The return as to diphtheria is not so satisfactory, the rate being 0.29. On a matter which does not involve any sanitary question we observe that Herefordshire has a fair share of uncertified deaths, the proportion being 6.1, but on the other hand in North Wales it is 11.15.

The estimated population of Herefordshire in 1871 was 121,985. The average of marriages in the quarters ending September in the years 1877-8-9 was 145. In the quarters ending September, 1880, the number was 152, being an increase of seven on the average of the previous three years.

The average of births in the three quarters ending December 31st in the years named was 837, while in the quarter ending December, 1880, the births had sunk to 792. The deaths in the same three corresponding quarters averaged 551, but it is satisfactory to note that in the quarter ending December 31st, 1880, notwithstanding the severity of the weather, the number was only 458, or a decrease of nearly *one hundred*. The deaths in the last quarter are returned as follows:—Small-pox, 0; measles, 0; scarlet fever, 12; diphtheria, 9; whooping cough, 0; fever, 1; diarrhoea, 13; from violence, 16; deaths in public institutions, 50; &c. There were 23 inquests held in that quarter.

Taken throughout, the Registrar-General's returns must be regarded as being exceedingly gratifying to the inhabitants of Herefordshire, demonstrating, as they do, that in healthiness the county is second to none in the kingdom.

TO THE URBAN SANITARY AUTHORITY OF THE
CITY OF HEREFORD AND THE COMBINED
RURAL SANITARY AUTHORITIES OF THE SAME
COUNTY.

December 31, 1880.

MR. MAYOR AND GENTLEMEN,

My Seventh Annual Report which I have the pleasure now of presenting you with will, I feel assured, give all who read it gratification—the mortality tables showing a marked decrease in the rate in each of my sanitary districts, thereby proving the benefit derived by all classes in this county from the Public Health Act being enforced ; and although some clauses in such Act may appear to some as somewhat obtrusive, still, taking the Act as a whole, I venture to say few counties in the United Kingdom have responded to its requirements with better results than the County of Hereford, and with so little legal power being resorted to, to enforce its several clauses.

By request of the Local Government Board, London, I am in these Annual Reports of mine, asked to point out any, and what circumstance, matter, or thing exists within your City and County that may prove prejudicial to the health of Her Majesty's subjects herein residing, and in order to respond to their Lordship's request, will as briefly as possible call their attention first, to the desirability of advising the Legislature to pass an Act, making it compulsory that any person occupying a house or rooms whatsoever, and having infectious disease therein *shall* (within twelve hours after its being made known to such party that it is infectious or contagious) give immediate notice to the Medical Officer of Health that such is the case, and that the infringement of such Act shall meet with a penalty of no small amount ; and further, that a Medical man so attending a case of infectious or contagious disease shall also (under a heavy penalty) be compelled to give information thereof within twenty-four hours of his diagnosing such disease.

For more than seven years I have worked the Public Health Act in this City and County, and every day I continue to do so it is infinitely more firmly grafted upon my mind, day by day, and week by week as I continue my duties, that the want of this Act to enforce information where infectious disease exists

(without delay) to the Medical Officer of Health, renders the Public Health Act (1872 and 1875) little better than a dead letter. I urgently pray of their Lordships for the seventh time, to give this subject their serious consideration. In doing so I reiterate the sentiments of all Sanitarians having duties similar to mine to accomplish. Were it needed I could cite innumerable cases where, if timely notice had been furnished me, infectious diseases could have been restricted to the house it first made its appearance in; the want of such timely information allowing it to be sown broadcast over an area of many miles, carrying with it death and misery to many. One example alone I would call their Lordship's attention to—the outbreak in the Weobley and Leominster Upper Hill Schools herein reported.

It is my humble opinion had timely notice been furnished me death and suffering might have been warded off in many cases. That their Lordships have issued an order, making it compulsory upon all Union Surgeons that have been appointed since 1879, to furnish information of cases of infectious disease they are called to treat (as pauper patients) to the Medical Officer of Health, is true, but let me call their attention to the fact that very seldom is an order given for the attendance of a Union Surgeon, upon an infant or child, by the Relieving Officer, unless the father is out of work or in abject poverty, or what is worse, until three, four, or five of such family are down with some highly infectious disease; one or two of which may have partially recovered before the order for the Union Surgeon is issued, and these recovering children, inoculating whomsoever they may be allowed to play and mix with. The information from such Union Surgeons, furnished to the Medical Officer of Health being then too late to arrest an outbreak, or in time to take any action thereon. The mischief, in fact, is done (nine cases out of ten) even before this *only medium* of information of pauper sickness is aware of it itself. From this subject I would now say a few words upon the cause and nature of such outbreaks. It will be seen in nearly all my tables of sickness and death that infectious disease of some sort has appeared in most of my respective districts, especially Scarlatina and Measles, these never ending two highly infectious diseases, can, in almost every instance, be found to have been fostered and brought to serious maturity by being sown first in the hotbeds of public schools, and so diffused from parish to parish, and thence from district to district; *there can be no doubt about it!!* Public schools are the *hot beds*, and ever will remain so, until Legislature enforces the timely information to the Medical Officer of Health that infection exists in a house or family, to be furnished either by its occupier or the medical man attending. This is the only remedy for these ever-predominating causes of excessive mortality and sickness in every one of my districts. It will be noticed in these

tables of sickness and death also, that Diphtheria plays a conspicuous cause of swelling the amount therein; now, without wishing to give the slightest offence or assuming to dictate, or attempting supererogation, I cannot help thinking, much of the sickness and deaths recorded to me as emanating from this dreadful disease, is not *true Diphtheria!!* That there has been an epidemic of an Hybrid Type throughout some of my districts, is made evident by such tables, but, on carefully going into the causes, in very few instances do I find that Scarlatina has not been in existence at the same time in such districts, and even in the very houses at the very time that Diphtheria had been reported to me as existing. Diphtheria has become the fashionable term of throat disease for the last ten years, and unquestionably it is on the increase. Conscientiously do I give it as my opinion, that much that is recorded as true Diphtheria springs from the before mentioned hot beds, the public schools, and was contingent upon the infection of Scarlatina brought therein characteristic, of the Hybrid type, and with little or no rash. These remarks also will apply to the disease of Measles, so very prevalent this year, and *existing at the same time in the same districts and at the same schools.* Dozens of cases were never treated by any medical man, nearly all (on *strict inquiry*) I ascertained had a rash for a day or so *with serious* throat complication—I cannot but think these cases partook also of the Hybrid type—and when we take into consideration the remarks of the Registrar-General, upon the large number of deaths registered in this county for the last twelve months, without any certificate of cause of death from a duly qualified Medical Practitioner, I am fully justified in coming to this conclusion.

Since writing these remarks, and whilst this report is being set up in type by the publishers (by their kind permission) they have allowed me to add the following remarks upon this most important question, which on carefully perusing, will bear out this theory. The *Lancet* of January 29, 1881, publishes the following thereon:—

“HEALTH MATTERS GENERALLY AT HOME AND ABROAD.—
DIPHTHERIA.—The continued attention which is being given by Medical Officers of Health to diphtheria is interestingly indicated by two communications which have recently reached us. The one is an inaugural address delivered before the Birmingham and Midland Society of Medical Officers of Health by Mr. G. H. Fosbrooke, Medical Officer of Health for the Urban and Rural Sanitary Districts of Stratford-on-Avon, Evesham, and Alcester, President of the Association; the other contains brief ‘Notes on the Spread of Diphtheria,’ printed for private circulation by Dr. Edwyn Slade-King, Medical Officer of Health for Torrington, Ilfracombe, and Dulverton. Mr. Fosbrooke devoted his address chiefly to an account of the experiences he had had of diphtheria in his district, com-

paring these experiences with those of other persons with reference to the disease, and laying particular stress upon the greater prevalence of the malady in rural as compared with urban districts, *its association with typhoid fever and with scarlet fever, which he holds to be much closer than is commonly believed*, and its inaptitude, as he thinks, to extend in towns as contrasted with the country. Further, he expressed himself as having been unable to trace any definite relations between the prevalence of the disease and the geological formation of a locality, or between the fluctuations of the malady in a district where it was long prevalent and season; he commented on family susceptibility as a predisposing cause, and finally confessed that he had felt himself compelled to admit the spontaneous origin of the disease in certain cases. Dr. Slade-King holds the opinion that "the atmosphere becomes contaminated by contagia from the bodies of the sick (of diphtheria), and that currents of air carry the poison with them in their course"; and he relates several very curious and instructive outbreaks of the disease within his district of particular interest to the student of diphtheria."

Compare these remarks with my report of the outbreak in the Weobley and Leominster districts.

Having briefly touched upon the *causes, propagation, and distribution* of infectious disease within this city and county I will in as few words point out action taken to prevent such. First and most important of all (I consider) is the supply of pure water in every Sanitary District of this combination of Unions to every house therein. To ascertain this, a house-to-house inspection has been made, the *quantity, quality*, and distance to obtain such *has been* set out and laid before the respective Boards, and where deficiencies exist, in any respect, the matter has met with the best attention from every member of such Board. Notices are being served on owners, &c., to remedy the shortcomings made visible by the Water Survey Sheets, and further action will be taken within a specified time under the "Public Health (Water) Act, 1879."

From water I will now touch upon the *second angle* of the tripod of the means of existence, that of *Food and Drugs*. The Adulteration Act thereon, I cannot but think is not carried out in this county as it ought to be to insure purity and genuineness. Some samples I obtained and paid for to examine and analyze, preparatory to obtaining the opinion (if sufficiently adulterated) of the County Analyst. Finding such food or samples not adulterated, I sent in the account for the purchase of such to the Sanitary Authority for the district where such was purchased, amounting only to a few shillings. The clerk thereto ruled and advised his Authority not to allow me to be reimbursed for such samples!! Surely there must be some grave error in such ruling? or a mis-

interpretation of the Local Government Board's Order of March 10th, 1880, Article 17, Clause 8! If such clause is to be so construed, and *only when an Authority thinks* proper to issue *their order* for the *obtaining of samples* of food and drugs for analysis. I very much fear the Act will be of little use in the Rural Districts, the fact of some of the Authorities only meeting once in three months, or once a month, and such collected samples having to be kept by the collector of the same until such meeting of the Sanitary Authority, *before he has power* given him to submit them for analysis, does away, in great measure, with the chance of finding out such adulteration. I have only to call attention to the remarks made by many of the County Analysts: "In consequence of the length of time *that elapses between the day of collecting* the samples and *their* receiving them and submitting such to chemical analyses, they are much impeded in forming the correct amount of *adulteration therein*, more particularly in fluids."

Of the remaining angle of the tripod of existence, that of Air, I have only to call attention to my City Quarterly Reports hereto attached, when it will be seen without such being pure and unpolluted, health becomes impaired and disease predominates.

Leaving the question of Water, Food, and Air, I would now state we have, during the autumn, been visited with a migratory population of hop pickers from all parts of the country (I am informed, to the number of twelve thousand or so). The necessary accommodation for so large an influx of some of the lowest grades of society naturally caused me some little anxiety, fearing the importation of infectious disease. I am, however, pleased to state I have not heard of a single case amongst this large number, and as regards the accommodation provided for them under the "Hop Pickers Act," I have made it my duty to visit many of the principal hop growers' houses and premises, and personally inspect the means of such accommodation, and now beg to remark that the bulk of this class of labourers have been provided with sleeping places by turning the ox stalls, barns, stables, lofts, and granaries into sleeping sheds, allowing to each person a liberal amount of clean straw to lie upon, and in many cases a rug or blanket for a covering, two and three fires were supplied to these people for cooking and drying purposes on such owners' grounds. Good and sufficient water was always within their reach, and most cases where practicable, the married divided from the single, and such single, as far as could be enforced, the male from the female, and (with one exception) I have heard of no impropriety. I, therefore, can take only one exception to this accommodation for so large an influx of casual population, that of placing the straw on the bare stones of the ox stalls, stables, and sheds. I am of opinion the straw

should be laid upon boards raised from the ground so as to allow the polluted air or gas that may be generated from the excreta saturated ground of these ox stalls, stables, and sheds to escape. In no instance did I find a single person without straw to lie upon and under cover.

As to the yield of hops to demand this large influx of casual labour, I am instructed to state it amounts to about 60 per cent. of an average crop throughout the county, and whilst speaking of crops I would also observe wheat, oats, and barley, 50 per cent. of an average; all roots, cent. per cent.; in fact better than has been for years; potatoes, 70 per cent. of an average; peas, beans, &c., 90 per cent. of an average in most parts of the county. These statistics necessarily demand far more home labour at better wages than in the miserable year 1879, such favourable returns of crops and demand for labour unquestionably proving an undeniable reduction in the rate of mortality, when the farmer has even only from 50 to 60 per cent. of a crop. In 1879 nearly every crop failed in the county; the death rate for that year rose close upon 5 per 1,000 from all causes. In this year 1880 there have been fair crops, demanding home labour at good wages; the death rate is lowered over 4.50 per 1,000 from all causes, notwithstanding an epidemic of scarlatina and measles, &c., to contend against. Thus proving, when labour is in demand at good wages mortality decreases, be there epidemics or not. And this is not all the benefits derived from sanitation and the demand for labour consequent upon the agriculturist having the means of keeping his labourers going. It has a wonderful effect upon *insanity*, as the able remarks thereon from the Report of Dr. Chapman, Physician to the County Lunatic Asylum, for the year 1879, bear out. This talented gentleman states on page 12 of such Report:—

“Whatever may be the special causes that lead to a case of illness being one of insanity instead of other disease, it is certain that, broadly, the causes of insanity and especially of acute insanity are the same causes as those of other diseases; and my hypothesis is this, that the higher wages that have ruled in the county for some years and the greater attention to sanitary matters have really diminished the annual production of acute insanity, as well as of other diseases. The increased wages act by improving the general wellbeing and especially the dietary of the labouring classes; I distinctly demur to the theory that increased wages are a curse by increasing intoxication, they unquestionably are to some, and to more in some districts than others, but taking the mass these cases are exceptional. We do not hear of the 19 or 99 whatever the number is to whom they are an unmixed advantage, the 20th or 100th who is prepared to make any blessing into a curse, thrusts himself on our notice, but this is certainly not a case for applying the rule *ex uno disce omnes*.

“With a view to apply some test to this theory, I have obtained by the kindness of Dr. Sandford a return of the rates of mortality for certain districts in the county for the last six years, in order to see whether improved sanitation and increased wages have really had that effect on the general health of the county which *a priori* I thought they must have had, and one indication of which I thought I had detected in the decrease in the actual production of insanity. These returns bear out the hypothesis in a remarkable manner, much more so than I had expected from a consideration of the national statistics in the quarterly returns of the Registrar General. They show a remarkable decline, steadily and gradually going on from the year 1874 to 1878, and a sudden and great rise in 1879. This is contrary to the statistics of the Registrar General, the small mortality of the 3rd and 4th quarters of 1879 balancing the high mortality which the first quarter owed to a severe winter; in Herefordshire the severe winter no doubt had its effect, but the wet summer was a health giver to towns rather than to the country, and no doubt failed to diminish Herefordshire mortality, whilst there was a strong factor on the other side, viz., the comparatively high wages which had for some time ruled among agricultural labourers, fell to as low a point as ever. That this is, if a partial, at least as far as it goes, a correct explanation is further supported by the fact that the least urban districts, Bromyard and Weobley, show the greatest comparative increase; at least their 1879 rate is their highest in six years, in the others the earlier years are still higher than 1879. A further corroboration from my own observations which suggested this inquiry is to be found in the fact that the acute cases of 1879 are more numerous than in 1878, and especially that the largest proportion of them were admitted in the latter half of the year, so that whilst at the end of 1878 only 15 curable cases were resident, there are now 22 in the Asylum, giving us hope of a larger number of recoveries next year than this, if at the same time showing us that the county of Hereford is less prosperous and consequently yielding a larger harvest of death and diseases, and amongst others of insanity.”

This evidence surely will do away with any further opposition to the necessity of a Medical Officer of Health being appointed over a combination of Unions. Without such combination how was it possible to lay these important facts before the public?

To the Local Government Board do I now urgently appeal that when such evidence of beneficial results are made so palpable their Lordships will, for the future, make the appointment of of Medical Officer of Health a permanency, so as to secure the continuance of such evidence. As long as the appointment exists in the present unsatisfactory state so long is the Medical Officer of Health debarred from furthering public good, the duties he has to carry out must of necessity (if he does his duty) infringe and

affect the interests of those in whose hands rests the re-appointment of such officer, and in a large majority of instances, if opposition is brought to bear to frustrate such reappointment, it unquestionably emanates from personal feeling against such officer in consequence of his conscientiously carrying out the duties imposed upon him.

One step of advancement, and in the right direction, has been taken by the Local Government Board—that of their order of March 1880, placing the work of the Inspector of Nuisances under the direction and supervision of the Medical Officer of Health. Up to that date instances innumerable could I illustrate where I had ordered immediate sanitation in consequence of threatened outbreaks of disease, these orders had been countermanded by some member of a board who might have been just placed on such, and who knew nothing whatever of the work in hand before his joining such Board. One instance I must mention. In September last, I gave immediate instructions to the Inspector of Nuisances to serve notice upon keepers of swine to remove them—from their fearfully offensive condition—there being nothing more than a hole dug in the earth to receive the liquid excreta, &c., the complaints, from neighbouring ratepayers demanding such removal as they could not bear the horrible stench from these animals, many complaining of diarrhoea and illness consequent upon inhaling the polluted air therefrom. I naturally concluded such orders had been carried out. However, in October I received more complaints and visited the places myself, and ascertained that no written notice had been served. In November I brought before the Sanitary Committee the shortcomings of the Inspector of Nuisances, and pointed out to the committee the serious results that might accrue from my orders not being strictly and promptly enforced (there being just before a decided epidemic of malignant diarrhoea, to which I regret to state many infants and those under five years of age had fallen victims). I had not finished my remarks thereon to the committee when up jumped this newly-elected member who had only been in office one half-hour and demanded of me to state by what authority “I, as only a servant of his Board, should dare to dictate to the Inspector of Nuisances, who was only another of their servants.” I remonstrated, but all to no avail, the Inspector finding this opposition to my instructions boldly then stated *for his part he could find no nuisance on the premises more than pigs generally made*. I insisted there was, and highly injurious to the health of the ratepayers so complaining. His reply was—*Pigs ought to be given time to be removed, as if they were done so now it was or would be a great loss to the owners, as they were not fat enough to be sold at a profit then*. I must add they had been there already four months in the hottest part of the year in these filthy styes. The results were the Inspector of Nuisances told me to my face “He should

take his instructions from his Board and not from me." The pigs were, in many cases, allowed to remain until after Christmas, when a heavy flood came, flooding out these filthy holes loaded with excreta, and making one lake of filth between two streets, much of which percolated into the basements of houses—whether illness will accrue from such percolation remains yet to be proved.

I have mentioned these facts to show what injury can be done by an obstructing or officious member, and the great benefits that the order of March, 1880, from the Local Government Board empowering the Medical Officer of Health to direct and superintend the duties of the Inspector of Nuisances for the future, will eventually prove.

I have only to add, that as soon as the water supply question is completed throughout the whole of the combined Sanitary Authorities under my supervision as Medical Officer of Health, I purpose instituting a fourth house to house sanitary survey.

It only now remains for me to tender my cordial thanks to so large a majority of the delegates for their unanimously giving me their support at my re-election, and sincerely do I trust they may never have cause to alter their good opinion of me. More than these, thanks are due from me to the Local Government Board also for acknowledging my services and declining to sever a combination which they admit has proved so beneficial to public health in this county.

I am, Mr. Mayor and Gentlemen, your Obedient Servant.

VAVASOUR SANDFORD,

M.D., L.R.C.P., London; M.F.S.G., and F.G.S.

Bridge House, Hereford, December 31st, 1880.

THE URBAN SANITARY AUTHORITY OF THE CITY OF HEREFORD.

Population of City, about 19,200.

Houses, about 3,400, giving about 5 people to a house.

Area, 2,417 acres.

Parishes, 6.

Births for the year 1880, Males	...	...	...	...	...	...	274
" " Females	..	...	...	...	...	...	279
Total							553

Of this number 43 were Illegitimate, the position in life of the mother being returned as "Domestic Servant," showing an increase of 10 on the 33 for the year 1878.

Deaths for the year 1880	...	...	...	...	...	...	352
Rate of Mortality	...	...	...	...	...	18.1	per 1,000.

Inspector of Nuisances for the City Sanitary Authority, Mr. B. Bridgewater, Berrington-street, Hereford, whose returns of work done for the last 12 months are as follow :—

The third house-to-house Sanitary Survey is completed.

Number of Nuisances thereon, 292, as follows :—

Repairs and attention to Water Closets, Privies, and

Drains... .. 95

Pigs, Pigwash, and Offal 59

Dung and Ashes... .. 57

Houses overcrowded 8

Smoke removed, Dead Animals, Poultry, and other causes 73

Total — 292

Lodging Houses Licensed, Inspected and Whitewashed twice a year

Bakehouses, Inspected and Whitewashed twice a year

Slaughter-houses, Inspected and Whitewashed twice a year... ..

Do. (Public), fitted up with every Sanitary Arrangement.

The Provision Market good and inspected regularly twice a week, in which 2 cases of improper food have been offered for sale this year and condemned.

TABLE OF NEW CASES OF SICKNESS, coming to the knowledge of the Medical Officer of Health, during the year 1880, in the Urban Sanitary District of the City of Hereford; classified according to Localities and Diseases.

NEW CASES OF SICKNESS, IN PERSONS BELONGING TO THE DISTRICT DISTINGUISHING THOSE IN CHILDREN UNDER FIVE YEARS OF AGE.																			
NAMES OF LOCALITIES.	1	12	13	14	15	16	17	18	Continued Fevers.				23	24	25	26	27	28	Other Diseases, such as Chicken Pox, or Pneumonia, which the Medical Officer of Health thinks well to record.
									Typhus.	Euteric or Typhoid.	Other or Doubtful.	Diarrhoea.							
Hereford																			
Urban Sanitary Authority		Under 5 5 upwds	.. ..	4 10	7 3	.. 3	2 ..	9 4	.. ..	.. ..	.. ..	70 30	.. ..	2 ..	1 ..	2 ..	1 ..	.. ..	Pneumonia and others. 70 160
Workhouse		Under 5 5 upwds	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	Pneumonia and others. 2 123
Outdoor Paupers		Under 5 5 upwds	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	7 16	.. ..	.. ..	3 ..	.. ..	.. ..	.. ..	Pneumonia and others. 40 100
Infirmary*		Under 5 5 upwds	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	Pneumonia and others.
Totals.....		Under 5 5 upwds	.. ..	4 10	7 3	.. 3	2 ..	9 4	.. ..	.. ..	.. ..	77 46	.. ..	2 ..	4 ..	2 ..	1 ..	.. ..	Pneumonia and others 112 323

* No official or correct return.

TABLE of DEATHS during the year 1880 in the Three Divisions of the Urban Sanitary District of the City of Hereford, classified according to Diseases, Ages, and Localities, and showing also the Population of such Localities, and the Births therein during the year.

Names of Localities adopted for the purpose of these statistics: public institutions being shown as separate localities.	POPULATION AT ALL AGES.		MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES.										MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.																							
	Census 1871.	Estimated to middle of 1880.	Registered Births					At all ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 60.	60 and upwards.	Smallpox.	Measles.	Scarlatina.	Diphtheria.	Croup (not "spasmodic").	Whooping Cough.	Continued fevers.				Diarrhoea and Dysentery.	Cholera.	Rheumatic fever.	Erysipelas.	Pyæmia.	Puerperal fever.	Ague.	Phtisitis.	Bronchitis, Pneumonia, and Pleurisy.	Heart Disease.	Injuries.	Other Diseases.
			Typhus.	Enteric or Typhoid.	Other or Doubtful.	Typhus.	Enteric or Typhoid.														Other or Doubtful.															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33				
Hereford Urban Sanitary Authority (including Out-Paupers)	18347	19200	538	288	99	35	5	13	58	73	undr 5 supws	1	5	1	2	1	1	..	..	26	2	..	2	..	..	..	..	23	21	25	4	69
Workhouse ....	..	..	15	41	5	1	1	1	9	24	undr 5 supws	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	9	..	8	78
Infirmary .....	..	..	..	23	..	1	2	2	12	6	undr 5 supws	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	2	..	..	7	11
Totals.....	18347	19200	553	352	104	37	8	21	79	103	undr 5 supws	..	1	5	1	2	1	..	..	26	3	..	..	..	..	..	..	3	23	27	5	74
											undr 5 supws	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	24	32	15	111		

THE URBAN SANITARY AUTHORITY, CITY OF HEREFORD.

December 31, 1880.

MR. MAYOR AND GENTLEMEN,

I have only to call your attention and that of the Local Government Board to the great decrease of the rate of mortality in your city for the last twelve months to convince you and their honourable Board of the continued and marked benefits derived by the Public Health Act being enforced in this city.

Your death-rate was last year 23·8 per 1,000, this year it is only 18·1 per 1,000, being more than 5 per 1,000 less for the twelve months, and were it not that I had to contend against an outbreak of infantile diarrhoea causing 28 deaths therefrom, such rate of mortality would have been the lowest on record. The causes of this outbreak I assign in some degree to be self imposed, as my four quarterly reports to your Sanitary Authority, which are hereto attached (more particularly the September and December ones) will confirm. These reports bearing upon all other matters for the last twelve months release me here from going further into detail upon the rise and progress of sanitation within your ancient city.

Hereford, March 31, 1880.

Annexed to this report is the report of the Medical Officer of Health for the quarter ended March 31st, 1880, which is of a very satisfactory character. The committee have thought it desirable that the Medical Officer should be made acquainted with the condition of the stock offered for sale in the Hereford cattle market, and they have arranged that the book containing the entries and observations of our Market Inspector shall be laid before the committee every month.

T. CAM, Chairman.

Mr. Mayor and Gentlemen,—Before going into business matters allow me to return you my most sincere thanks for the handsome manner in which you have recognised my services as your health officer for the last seven years, by presenting me with a unanimous and special vote of thanks for such services at your last meeting, and having such vote recorded in your minute book.

Believe me, Mr. Mayor and gentlemen, it has been my study since being appointed Medical Officer of Health for this city and county, to promote and maintain (if possible) the reputation of this city and county as being healthier, and having less deaths from zymotic diseases, than any city and county in the United Kingdom.

This great object, for which I and the members of different sanitary authorities in this county have worked, is at last

obtained, and sincerely do I trust we may continue to unite and work with the same hearty co-operation as we have hitherto done in carrying out one of the most beneficial Acts of Parliament to mankind ever passed, when I feel assured, with such co-operation, your city and county will ever hold the palm of salubrity it now so justly merits. I would further mention that I have had the honour of receiving similar votes of thanks as you have conferred upon me within the last month from the Ledbury Rural Sanitary Authority; also from the Hereford Rural Sanitary Authority, the Bromyard Rural Sanitary Authority, and the Leominster Rural Sanitary Authority, these different Boards fully appreciating and testifying to the benefits of the Public Health Act and the manner I have had the honour of carrying out the clauses therein to their and your satisfaction.

Annexed is my quarterly report for the 31st March last, which you will find most satisfactory.

I am, Mr. Mayor and Gentlemen,

Your obedient Servant,

VAVASOUR SANDFORD.

Total number of deaths from all causes—one hundred and three. Of this number forty-one are under five years of age. The causes registered are one from scarlet fever, one from croup, one from whooping cough, two from diarrhoea, one from rheumatic fever, one from puerperal or child-bed fever, fifteen from phthisis, seventeen from pneumonia, bronchitis, and pleurisy, five from heart disease, four from injuries, accidents, &c., fifty-five from old age, non-zymotic diseases.

Having so recently presented you with my annual report upon every detail touching upon the sanitary condition of your city, it will only remain for me to mention now that your city water is of the usual standard of purity as hitherto reported, with a slight change of one degree of hardness. The third house to house sanitary survey is being continued by your inspector with the usual good results.

The examination of food and drugs is being continued by me, nothing turning out as to warrant further action by your authority.

I am, Mr. Mayor and Gentlemen,

Your obedient Servant,

VAVASOUR SANDFORD.

Hereford, June 30, 1880.

Mr. Mayor and Gentlemen,—I have to inform you that your city rate of mortality is reduced this quarter nearly 25 per cent. against last quarter, being only 81 from all causes against 103 for the March

quarter, and with pleasure I have further to inform you that only one death from infectious or contagious disease has occurred during the quarter (from measles), the balance emanating from pulmonary, heart, and other non-zymotic diseases.

Of general subjects to bring to your notice is the purity and excellence of the water supplied to your city by the waterworks since the reservoir having been cleared out, and the sides and bottom bricked, to enable such reservoir to be cleaned out when required for the future, a matter that has never been done before.

Analysis of water of the Wye, made June 28th, 1880:—Hardness, 6·30 degrees; total solids, 6 grains per gallon; oxydisable organic matter, ·400 of a grain per gallon; free ammonia, none; albumenoid ammonia, a trace only; colour, bright and clear, and without smell or taste.

So far, Mr. Mayor and gentlemen, everything is most favourable in your city, and as regards the class and quality of the food and drugs sold therein, I have to inform you that out of the seventeen samples of bread, flour, butter, milk, spirits, and drugs, I find none sufficiently impure or adulterated as to warrant my recommending legal proceedings under the Food and Drugs Adulteration Act.

It only remains for me to recommend your Sanitary Authority issuing orders for the destruction of stray dogs within your city during the next three months if not claimed within three days. The complaints I receive just now are very numerous, complaining of so many being at large.

The third house to house sanitary survey is being continued by your Inspector, with marked beneficial results.

I am, Mr. Mayor and Gentlemen,

Your obedient Servant,

VAVASOUR SANDFORD.

Hereford, September 29th, 1880.

Mr. Mayor and Gentlemen,—I regret to inform you that the number of deaths from all causes for the quarter ending to day within your city is in excess of last quarter by 14, being 95 against 81, this increase being registered as an epidemic of diarrhoea, 21 cases having occurred, 20 of which were under five years of age. These, with three from scarlet fever, one from diphtheria, two from rheumatic fever, four from phthisis, eight from bronchitis, pneumonia, and pleurisy, seven from heart disease, three from accident, and 46 from other causes, constitute the total of 95; and, I regret to say, of this total no less than 47 are below five years of age, this increase of infantile mortality being from 20 cases of diarrhoea, three from scarlet fever, two from bronchitis, and 22 from other infantile ailments. As regards the three cases

of scarlet fever, there can be but very little doubt but the infection was brought from a distance. The diphtheria case I cannot account for, unless from vegetable decomposition. The diarrhoea cases, I believe, are mainly owing to an epidemic during the excessively hot weather during the months of July and August, and eating unripe fruit. At the same time I am bound to mention the foul and highly injurious gases arising from pigs being kept in an unclean state, together with tubs of fermenting wash being allowed to accumulate during the hottest days we have had for years, which has considerably tended to vitiate the hitherto purity of the air, thereby assisting any disease of an epidemic or endemic nature. The number of complaints I have received from your ratepayers upon these abominations being allowed to exist within your city precincts passes almost enumeration. Many of these keepers of swine boldly say they are allowed by your "Bye-laws" to keep swine, so long as they are not kept within 45 feet of a dwelling-house, &c., under your 305th clause. To this erroneous assertion I must call your attention to the Public Health Act of 1875, sec 91, art. 3 and 4, wherein will be found "any animal so kept to be a nuisance or injurious to health." This clause specifies no limit from a dwelling-house; and further, as to the keeping of wash tubs for such swine, in this 91st section it is positively laid down that the accumulation of swill and wash in the horrible state it has been allowed to be kept, highly injurious to the health of Her Majesty's subjects, comes under such clause in the Public Health Act. In my instructions it is laid down that no piggeries are to be constructed or allowed to be used for the keeping of pigs without being first paved and drained, and not to be a nuisance or injurious to health, without any distance being specified. This evidence before you, I am requested to call upon your Sanitary Authority to prohibit the keeping of swine other than as laid down; and, further, before any party be allowed so to do that he obtain the opinion of the Inspector of Nuisances that such sty is so constructed and in accordance with the before-mentioned regulations, and after such mentioned inspection a register be made where such swine are allowed to be kept, and the Inspector be requested to visit the same and report to your committee at periodical dates the condition such piggeries were in at the time of such visit. This plan I believe to be the only remedy to do away with such nuisances that have been so seriously complained of by your ratepayers.

Another matter it is within my province to now bring before you, under the Trades' Nuisances Act. Two men have been allowed to carry on the work of gut-spinners and workers in Gwynne-street for the last four months, without any trade necessities whatever, all simply in one room in a lodging-house; and, to convince your Sanitary Authority of the horrible trade in such places, I now quote the remarks made by Dr. Ballard, Local

Government Inspector of Trades' Nuisance, in his report to Government—"They are the most intolerable nuisances wherever they may chance to be located," &c., &c. (Page 220, on Effluvium Nuisances.)

Of routine matters to report to you to-day, I beg to observe that the water supplied to your city continues to keep up its standard of purity and excellence.

The articles examined by me under the Food and Drugs Adulteration Act do not warrant my applying to you for legal proceedings this quarter.

In consequence of the epidemic diarrhoea being of a rather severe type it has been necessary for the Inspector to use more energy in giving notice to abate several nuisance arising from pig tubs, pigs in a filthy and offensive state, &c., by my special orders. This will in some measure account for my not receiving as many house-to-house survey sheets this quarter as hitherto.

I am, Mr. Mayor and Gentlemen,

Your obedient Servant,

VAVASOUR SANDFORD.

Hereford, December 31st, 1880.

Mr. Mayor and Gentlemen,—I have to report to you that your city death rate has considerably lessened this quarter, being only 73 from all causes, against 95 for the September quarter, and with the exception of one death from scarlatina, one from croup, and four from diarrhoea, the balance is made up from pulmonary and heart disease, accidents, and diseases of a non-zymotic character. Of these 73 deaths 25 (or one-third) are below five years of age, three of which proceed from diarrhoea, and one from scarlet fever. This seriously fatal disease, diarrhoea, amongst infants and those under five years of age, which predominated in the September quarter report of your city, I am pleased to inform you, has subsided, and I trust I may never have to record such another outbreak in a hitherto remarkably free urban district, and, in some measure, I am bound to confess such outbreak was endemic, and to a certain extent consequent upon air poison from pigs being allowed to be kept in all districts of the city without any drainage or other sanitary arrangements as prescribed. The accumulation of filthy swill, pigs' wash, and offal necessary to feed these pigs during the hot weather, was almost as dangerous to health as the undrained animals and styes, and directly against the Public Health Act, and I take this opportunity of informing your ratepayers that they have a just and legal right to report any neighbour so infringing against the Act, and in order to facilitate their doing so for the future, I beg to inform them that a "Plaint Book" is kept open at the Inspector of Nuisances' house, where they have a right

and can demand the book, and enter any plaint of the kind. Such plaint is held (or ought to be) in strict confidence by the Inspector of Nuisances. If they (the ratepayers) feel some diffidence in so doing (from fear of its becoming known that they so complained), then they have the remedy of writing to the Inspector of Nuisances, direct, at the same time keeping a copy of such letter, and if (in 24 hours' notice) action be not taken by the Inspector of Nuisances, all I ask the ratepayers to do is to inform me without delay, sending me at the same time a copy of letter to the Inspector of Nuisances, when, under extra powers given me, I will see their health taken care of. I would further state that this applies to all nuisances injurious to health.

I would call your Sanitary Authority's attention to your issuing orders that no pig or other offensive animal shall be kept so as to be a nuisance or injurious to health within the limits of your city boundaries, that such as are kept, the styes or places where such is placed, shall (as prescribed) be properly paved, drained, watered, and periodically inspected; and further, that a register be kept of such styes or places, and the days of inspection be entered, reporting the condition found at time of the visit, and if any accumulation of filth or swill be existing, such register to be open to my view when required.

I would further suggest that a fourth house-to-house sanitary survey be at once commenced, and that every column on such survey sheet be correctly and truthfully filled, pointing out the exact state of the house and premises; if any animal kept thereon; if any accumulation of filth or manure, swill, pig's wash, any offensive trade, or the products of trade, existing at the time of making such inspection, be entered on the survey sheets and forwarded to me as soon as filled up. The fact of my finding 26 styes, or places where pigs had been kept, and some with pigs therein, together with heaps of filth and holes only dug into the earth to catch the liquid filth therefrom—all these and many more instances highly injurious to public health being in existence between the rear of two streets running parallel and such space between such streets, being subject to flooding of a watercourse during heavy rain, the whole space becoming a sea of filth during such floods, All this and more never being remarked upon the last survey compels my enforcing that a more minute survey for the future be at once instituted.

I would further call your Authority's attention also to the order of the Local Government Board of March, 1880, insisting that a diary or record of every day's work be entered in such by the Inspector of Nuisances, and that such book or diary be submitted to me at least every Saturday evening for my inspection and to receive my signature for your Sanitary Committee's perusal also. I would also call your attention and that of the

public to such order from the Local Government Board wherein is expressly provided that the Medical Officer of Health "shall direct or superintend the work of the Inspector of Nuisances," &c. The benefits from this order are so fully set out and remarked upon by the "Lancet" of March, 27th, 1880, that I strongly recommend the reading of it by the public. The "Lancet" says—"Owing to advice from those interested, the Medical Officer of Health and Inspector of Nuisances were actually brought to antagonism to the immeasurable detriment of public health administration."

For my part I can truly say never was a greater boon conferred upon a class of highly educated and qualified men than this order touching the duties of the Medical Officer of Health in relation to an Inspector of Nuisances carrying out the Public Health Act. It at once does away with the repeated insults received by Medical Officers of Health from ignorant and dangerous would-be sanitarians who may perhaps have a voice at a Sanitary Authority's Board to protect their own interests or that of some politically patronised friend.

I regret, further, to call your attention to the late turbid state of your hitherto pure water supplied to the city. On the 27th of December it became discoloured, as also disagreeable to smell, and continued so for eight days after the discolouration. I set it down to the faulty and overworked filtering beds and the Wye before its having time to precipitate in the receiving tank or reservoir. The smell partook more of gas tar than anything else. The total solids per gallon amounted to 12 grains; aluminoid ammonia a trace only. I am, however, happy to inform you that the water now has regained its standard of purity.

The examining of samples of food and drugs vended within your city for the last quarter I have given but little time to owing to pressure of professional duties.

It only remains for me to return my sincere thanks to your able Chairman, T. Cam, Esq., for his valuable advice and assistance for the last twelve months in carrying out my unpleasant, but valuable duties, and to state shortly that I shall have pleasure in presenting you Mr. Mayor, and gentlemen, with copies of my seventh annual report on the rise and progress of sanitation in your ancient city and county of Hereford.

I am, Mr. Mayor and gentlemen,

Yours obediently,

VAVASOUR SANDFORD.

THE HEREFORD RURAL SANITARY AUTHORITY

DIVIDED INTO THREE DISTRICTS.

Area : 70,974 Acres, consisting of 42 Parishes.

Population, about 17,333.

Houses, 4,720.

Aggregate number of people to each house, about 4.

Births for the year 1880, 475.

Deaths do. do. 286.

Rate of Mortality for the year 1880, 14·8 per 1,000.

Inspector of Nuisances for the whole district Mr. FOWLES Swains Hill, Hereford, whose returns of work done for the 12 months are as follow :—

Defective Drains	...	..	...	...	40
Bad Privy accommodation	...	...	...	...	53
Dirty and Offensive Pigsties	...	...	...	...	64
Houses repaired	...	...	..	...	32
Offensive Drains and Soil, &c.	...	...	...	...	55
Dwellings without Ventilation	..	...	...	...	5
Dangerous Wells altered	...	...	...	..	27
Stale and Stinking Wash removed	...	...	...	...	41
Unexpired notices to abate	...	...	...	...	4
Total					321

A House-to-House (fourth Survey under the Public Health Water Act, 1879) has been made, showing nature of Water quality, quantity, and distance to obtain same.

TABLE OF NEW CASES OF SICKNESS, coming to the knowledge of the Medical Officer of Health, during the year 1880, in the Three Divisions of the Rural Sanitary District of the Hereford Union; classified according to Localities and Diseases.

NEW CASES OF SICKNESS, IN PERSONS BELONGING TO THE DISTRICT, DISTINGUISHING THOSE IN CHILDREN UNDER FIVE YEARS OF AGE.																					
NAMES OF LOCALITIES	1	12	13	Smallpox.	Measles.	Scarlatina.	Diphtheria.	Group (not "epidemic").	Whooping Cough.	Continued Fevers.				Cholera.	Rheumatic Fever	Erysipelas.	Typhnia.	Puerperal Fever.	Ague.	Other Diseases, such as Chicken Pox, or Pneumonia, which the Medical Officer of Health thinks well to record.	
										Typhus.	Enteric or Typhoid.	Other or Doubtful.	Diarrhoea and Dysentery.								
Devchurch.....		Under 5 5 upwds		10 15	4 10			2	2					4					28	10 20	
Out-door Paupers		Under 5 5 upwds															1				14 40
Fownhope		Under 5 5 upwds		10 15			1	2	3					6							15
Out-door Paupers		Under 5 5 upwds					7							7							10
Burghill		Under 5 5 upwds		1 5					1					2		1					20
Out-door Paupers		Under 5 5 upwds		4 9	1 4		1	1	4					10 11		1					11
Asylum		Under 5 5 upwds												15		1					30
		Under 5 5 upwds																			17
		Under 5 5 upwds																			..
Totals.....		Under 5 5 upwds		25 37	5 14	1 9	5 8	7 5			2	2	81 49		7	3	1				67 137

* No official return from this Establishment.

THE HEREFORD RURAL SANITARY AUTHORITY.

Gentlemen,—It would be impossible for me to find a subject more pleasing to report to your Board than the fact of your rate of mortality being now reduced throughout your Union district for this year from 21·0 per 1,000 to 14·8 per 1,000 (within a few fractions of 7 per 1,000 less), or in plain figures a reduction of deaths, from all causes, to the number of 119 this year, within your Union district, and still more gratifying it will be for you to see, on reading, the cause of deaths, that with the exception of four deaths from Diphtheria and two of Enteric Fever (one a doubtful case, the patient having been ill for months before) there is nothing to call your attention to, other than the general causes of death in rural districts for the whole year.

The tables of sickness, too, from all causes, reveal nothing of moment, with the exception of Measles, which (as will be seen) have shown in all districts, but very few amongst paupers. The Diphtheria cases amount to 10, and with the exception of one case none are amongst paupers also. These Diphtheria cases are without doubt accounted for by polluted wells and gases emanating from decomposed animal and vegetable accumulations during a very hot summer, all of which were promptly removed. Scarlatina was conveyed into two of your districts by direct imported infection, causing 19 cases, but without a death resulting therefrom, and timely information having been furnished to me I was enabled to arrest the spread of infection to other districts and without its showing amongst paupers. Diarrhoea was, during the very hot months, rather in excess throughout your districts, causing altogether 10 deaths, eight of which carried off infants under five years of age.

This great reduction in the rate of mortality will, I feel assured, be considered an ample return to your Chairman and Sanitary Authority for so ably supporting me in the carrying out of my duties and unanimously voting for my re-election, and most sincerely do I tender my thanks for same.

I am, Gentlemen,

Your obedient servant,

VAVASOUR SANDFORD.

Bridge House, Hereford, December 31st, 1881.

THE LEDBURY RURAL SANITARY AUTHORITY.

DIVIDED INTO TWO DISTRICTS.

Area : 48,783 Acres, consisting of 22 Parishes.

Population about 13,239.

Number of Houses about 2,920.

Aggregate number of people to each house, about 4.

Births for the year 1880, 335.

Deaths do. do. 201.

Mortality do. do. 15.1 per 1,000.

Inspector of Nuisances for whole district Mr. WM. DINGLEY, Ledbury, whose returns of work done for the 12 months are as follow :—

The Third House-to-House Sanitary Survey is now finished.

Number of Nuisances found to exist this year	...	120
Consisting of Drains new and repaired	..	10
Earth Closets and Privies supplied	...	10
New pans to ditto...	...	3
Overcrowding	...	6
Pigstyes removed	...	10
Houses disinfected	...	2
Cesspools cleansed, repaired and bricked, and removal of all offal and other nuisances	...	79

The House-to-House (fourth Survey) under Public Health Water Act, 1879, throughout this Union district has been made, showing the Water Supply to every house therein, the quality and quantity thereof, the distance to obtain same and how obtained.

TABLE OF NEW CASES OF SICKNESS, coming to the knowledge of the Medical Officer of Health, during the year 1880, in the Five Divisions of the Rural Sanitary District of the Ledbury Union; classified according to Localities and Diseases.

NEW CASES OF SICKNESS, IN PERSONS BELONGING TO THE DISTRICT, DISTINGUISHING THOSE IN CHILDREN UNDER FIVE YEARS OF AGE.																			
NAMES OF LOCALITIES.	1	Continued Fevers.										Cholera.	Rheumatic Fever	Erysipelas.	Pyæmia.	Puerperal Fever.	Ague.	Other Diseases, such as Chicken Pox, or Pneumonia, which the Medical Officer of Health thinks well to record.	
		Smallpox.	Measles.	Scarlatina.	Diphtheria.	Croup (not "spasmodic").	Whooping Cough.	Typhus.	Enteric or Typhoid.	Other or Doubtful.	Diarrhoea and Dysentery.								
Ledbury	Under 5	..	10	2	4	..	1	..	1	20	..	..	1	..	..	..	..	70
Workhouse	5 upwds	..	9	3	7	5	2	..	2	30	..	..	2	..	..	..	..	100
Out-door Paupers	Under 5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Yarkhill	5 upwds	..	1	..	4	..	2	..	..	18	..	..	..	..	..	..	..	60
Out-door Paupers	Under 5	..	..	..	2	2	..	..	..	25	..	..	..	1	..	..	..	200
Yarkhill	5 upwds	..	20	..	2	2	6	..	2	10	..	..	1	..	..	..	..	20
Out-door Paupers	Under 5	..	17	..	2	4	2	..	2	20	..	..	2	..	..	..	..	70
Out-door Paupers	Under 5	..	1	..	..	..	1	..	..	6	..	..	..	..	..	..	..	10
Out-door Paupers	5 upwds	..	3	..	..	..	1	..	..	7	..	..	..	..	..	..	..	70
Totals	Under 5	..	32	2	10	2	10	..	..	3	54	..	2	..	..	..	..	161
	5 upwds	..	29	3	11	9	5	..	..	4	82	..	4	5	..	..	..	500

THE LEDBURY RURAL SANITARY AUTHORITY.

Gentlemen,—It only devolves upon me to point out the marked and persistent annual decrease of the rate of mortality within this Rural Sanitary Authority, which is pre-eminently made manifest by my readers perusing the accompanying tables of death for this year, and comparing them with my former ones for last year, when it will be discovered that such death rate is reduced from 18·80 per 1,000 to 15·1 per 1,000, thereby showing a reduction of over 3 and a half per thousand. Can anything be made plainer to the public and the Local Government Board? The great benefits derived by all classes of society from their having an energetic and thoroughly competent Chairman and Sanitary Board to this Union to carry out the Public Health Act, 1872 and 1875. I will let facts speak for themselves. The figures are undeniable, and most sincerely do I return the Chairman and Members of this Board my grateful thanks for the assistance received from them in carrying out my duties and their able support at my re-election.

In analysing the causes of sickness and morality it will be seen that no less than twenty-one cases resulting in 5 deaths are recorded as from Diphtheria, and although somewhat startling to read at first sight it, however, affords me pleasure to state that these twenty-one cases did not occur in any one particular parish or locality they being distributed in many parishes and over a very large area, the causes being, undoubtedly, in great measure ascertained to originate from Polluted Wells, owing to the fearfully large rainfall and wet year of 1879, flooding cess-pits and other accumulations of filth, the fluid portion finding its way by gravitations into such Wells. This pollution I anticipated last year and although every precaution was taken by myself and this Sanitary Authority to avoid such impregnation of water, still my prognostications were realised; there being no remedy to prevent percolation through invisible and uncomeatable subsoil and the overflow of surface impregnated water into Wells. All these Wells have been seen to and are in course of being remedied and until such has been done the water therein has been forbidden to be used for dietetic purposes.

Before leaving the subject of sickness and deaths I would

allude to the large returns of sickness emanating from Measles. This highly infectious disease has shown in many of your parishes, but of a very mild type, so mild that there has not been a death registered therefrom. Whooping Cough has been prevalent, causing, however, only two deaths.

It only remains for me now to report that the Water supplied to your town continues to give satisfaction and with the exception of its hardness there is nothing to find fault with.

Your Sanitary Authority have (in my opinion and to a certain extent by my advice) acted most judiciously in re-appointing Mr. Dingley as Inspector of Nuisances for a term of years instead of as hitherto, annually (subject to the approval of the Local Government Board). I feel convinced it is a step taken in the right direction and will give the Inspector more confidence in his appointment and free him from the perpetual doubt of being annually re-elected, in consequence of his carrying out many of his duties which he is bound to do upon property belonging to those who may have power to oppose such annual re-election.

I am, Gentlemen,

Your obedient servant,

VAVASOUR SANDFORD.

Bridge House, Hereford, December 31st, 1880.

THE LEOMINSTER RURAL SANITARY AUTHORITY.

DIVIDED INTO THREE DISTRICTS.

Area : 64,593 Acres, consisting of about 25 Parishes.

Population, about 10,662.

Houses, about 2,180.

Aggregate number of people to each house, about four and a half

Births for the year, 1880, 178.

Deaths *do.* *do.* 145.

Rate of Mortality, 13·1 per 1,000.

In consequence of the Inspector of Nuisances engagement with this Board having expired on December 25th last, and he having refused to accept the office again at a reduced salary, I much regret to say I am precluded from obtaining any correct statement of sanitary work done by him in this district for the last twelve months.

VAVASOUR SANDFORD.

TABLE OF NEW CASES OF SICKNESS, coming to the knowledge of the Medical Officer of Health, during the year 1880, in the Three Divisions of the Rural Sanitary District of the Leominster Union; classified according to Localities and Diseases.

NEW CASES OF SICKNESS, IN PERSONS BELONGING TO THE DISTRICT, DISTINGUISHING THOSE IN CHILDREN UNDER FIVE YEARS OF AGE.																			
NAMES OF LOCALITIES.	1	Continued Fevers.										Cholera.	Rheumatic Fever	Erysipelas.	Pyæmia.	Puerperal Fever.	Ague.	Other Diseases, such as Chicken Pox, or Pneu- monia, which the Medi- cal Officer of Health thinks well to record.	
		Smallpox.	Measles.	Scarlatina.	Diphtheria.	Croup (not "spasmodic")	Whooping Cough.	Typhus.	Euteric or Typhoid.	Other or Doubtful.	Diarrhoea and Dysentery.								
Leominster	Under 5	..	7	9	2	..	..	..	..	7	..	1	..	..	..	..	..	..
Out-Paupers	5 upwds	..	14	8	..	..	8	2	..	5	..	..	..	..	..	..	..	1
Bodenham	Under 5	..	1	..	1	..	2	..	..	2	..	..	..	..	..	..	..	6
Out-Paupers	5 upwds	..	12	7	..	..	4	6	..	9	..	1	..	..	..	..	..	89
Out-Paupers	Under 5	..	10	6	..	..	..	..	..	5	..	..	..	..	..	..	..	60
Kingsland	5 upwds	..	7	1	..	..	..	..	..	4	..	2	..	..	..	..	..	70
Out-Paupers	Under 5	..	3	2	..	..	4	2	..	10	..	..	3	..	..	..	..	100
Out-Paupers	5 upwds	..	40	..	..	..	2	..	..	15	..	..	..	..	..	..	..
Out-Paupers	Under 5	..	3	..	..	..	1	..	..	4	..	..	..	..	..	..	..
Out-Paupers	5 upwds	..	2	..	..	..	..	..	..	3	..	..	..	..	..	..	..
Totals.....	Under 5	..	70	19	3	..	12	..	2	32	1	..	5	1	..	..	..	371
	5 upwds	..	60	15	..	..	8	..	..	63	2	..	..	4	..	..	..

THE LEOMINSTER RURAL SANITARY AUTHORITY.

Gentlemen,—Although your mortality table represents your Union district as not being free from zymotic disease, causing no less than six deaths from scarlet fever, and two from diphtheria, still I have the satisfaction of informing you your mortality from all causes for the past twelve months, is nearly as low as it has ever been, being only 13·1 per 1,000 against 17·3 per 1,000 for last year, a reduction of over forty deaths this year, throughout your Union district.

The epidemics from measles and scarlatina originate principally from direct infection brought into schools in your three districts from adjoining districts belonging to other Sanitary Authorities.

The balance of the tables of mortality needs no other observation from me except the two cases of diphtheria which originated from filthy pig-styes being near the house, being of that nature to be expected in Rural Districts.

The fact of your death-rate being so considerably reduced this year must speak for the benefit derived by all classes from the Public Health Act being so ably carried out by your Sanitary Authority; your rate of mortality, in fact, is lower than any other in the county.

These facts before you, it only remains for me to thank you for your able assistance at all times rendered in carrying out my duties.

I am, Gentlemen,
Yours obediently,
VAVASOUR SANDFORD.

Bridge House, Hereford, Dec. 31, 1880.

THE BROMYARD RURAL SANITARY AUTHORITY.

DIVIDED INTO THREE DISTRICTS.

*Area : 61,659 Acres.**Population : 12,090.**Houses, about 2,560.**Aggregate number of people to each house, about four and a fraction.**Births for the year 1880, 298.**Deaths do. do. 219.**Rate of Mortality for the year 1880, 18·9 per 1,000.*

Inspector of Nuisances for the whole District, Mr. THOS. BARRS, Bromyard, whose returns of work done for the 12 months are as follow :—

The Third House-to-House Sanitary Survey is now finished.

Number of Nuisances found to exist	...	...	123
New Privies erected, &c....	...	...	8
Dwellings rebuilt or repaired	..	...	15
Dwellings cleaned, whitewashed, &c.	...	...	28
New Drains and Watercourses	...	...	13
Lodging-houses Inspected, &c.	...	...	3
Conviction—inflicting the Act; fined			
10s. and costs, 11s. 6d.	...	...	1
Pumps put in order	...	...	2
Exposure of fish, unfit for human food,			
fined £4, costs 16s.	...	...	1
Overcrowding removed	...	...	5
Offal and other filth removed	...	...	28
Nuisances not yet uncomplied with	...	...	31

A House-to-House (fourth survey) under the Public Health (Water Act) 79, throughout the whole Union District is now being made, and shortly will be complete, showing water supply to each house, the *quantity, quality, distance, and how obtained.*

TABLE OF NEW CASES OF SICKNESS, coming to the knowledge of the Medical Officer of Health, during the year 1880, in the Four Divisions of the Rural Sanitary District of the Bromyard Union; classified according to Localities and Diseases.

NEW CASES OF SICKNESS, IN PERSONS BELONGING TO THE DISTRICT DISTINGUISHING THOSE IN CHILDREN UNDER FIVE YEARS OF AGE																			
NAMES OF LOCALITIES.	1	Continued Fevers.																	
		Smallpox.	Measles.	Scarlatina.	Diphtheria.	Croup (not "epanmodic").	Whooping Cough.	Typhus.	Eutetic or Typhoid.	Other or Doubtful.	Diarrhoea, Dysentery.	Cholera.	Rheumatic Fever.	Erysipelas.	Pyæmia.	Puerperal Fever.	Ague.	Other Diseases, such as Chicken Pox, or Pneumonia, which the Medical Officer of Health thinks well to record.	
		12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Brockhampton and Out-Paupers ..	Under 5 upwds 5	..	..	12 30	2	1	..	2	..	1	1	5 6	..	..	1	..	..	..	17 20
Workhouse ..	Under 5 upwds 5	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Bishop Frome and Out-Paupers.....	Under 5 upwds 5	..	..	30 40	..	..	..	..	..	..	1	7 6	..	..	1	..	..	..	17 40
Bromyard and Out-Paupers.....	Under 5 upwds 5	..	..	30 40	..	..	..	4 2	..	..	2 1	7 9	..	..	1 2	..	..	..	16 30
Totals	Under 5 upwds 5	..	..	72 110	2	1	..	6 2	..	1	4 4	20 22	..	..	1 4	..	..	..	50 90

TABLE of DEATHS during the year 1880 in the Four Divisions of the Rural Sanitary District of the Bromyard Union, classified according to Diseases, Ages, and Localities, and showing also the Population of such Localities, and the Births therein during the year.

Names of Localities adopted for the purpose of these statistics: public institutions being shown as separate localities.	POPULATION AT ALL AGES.		MORTALITY FROM ALL CAUSES. AT SUBJOINED AGES.										MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.																			
	Estimated to middle of 1880.	Census 1871.	Registered Births										Mortality from Subjoined Causes, Distinguishing Deaths of Children under Five Years of Age.																			
			At all ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 60.	60 and upwards.	Smallpox.	Measles.	Scarlatina.	Diphtheria.	Croup (not "spasmodic").	Whooping Cough.	Continued fevers.			Cholera.	Rheumatic fever.	Erysipelas.	Pyæmia.	Puerperal fever.	Ague.	Phthisis.	Bronchitis, Pneumonia, and Pleurisy.	Heart Disease.	Injuries.	Other Diseases.			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
Brookhampton and Out-Panpers	3,54	8810	104	65	9	2	4	1	14	35	undr 5 supws	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	2	8	6	1	36
Workhouse	..	..	5	15	1	2	..	..	2	10	undr 5 supws	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	2
Bishop Froome and Out-Panpers	4510	4560	100	69	19	4	8	7	12	19	undr 5 supws	..	4	..	..	..	..	..	..	..	..	..	..	1	..	..	..	7	4	4	1	12
Bromyard and Out-Panpers	8688	3720	89	70	17	8	2	2	10	31	undr 5 supws	..	3	..	..	..	..	..	..	..	2	..	..	..	..	..	..	4	9	5	1	10
Totals.....	11934	12090	298	219	46	16	14	10	38	95	undr 5 supws	..	3	..	..	..	..	..	..	..	4	..	..	1	..	..	..	10	21	31	17	3

THE BROMYARD RURAL SANITARY AUTHORITY.

Gentlemen,—The total absence of a record of any deaer arising from any infectious or contagious disease but measles, in the whole of your Union District for the last 12 months, must be sufficient proof that the Public Health Act, 72 and 75, is of the greatest benefit to your district, and with the exception of eight deaths from measles, and six from diarrhœa, there is literally nothing touching upon the Mortality Tables to call your attention; and referring to the Tables of Sickness, this too with the exception of measles, slight cases of scarlatina, one case of enteric fever, and eight of slight fevers accompanying colds, pneumonia, &c., &c., and some cases of summer diarrhœa, with mild erysipelas, will constitute the bulk of the sickness that has come to my knowledge. The measles epidemic has prevailed in all your districts, being simply carried into schools, and so sown broadcast everywhere. The case of enteric fever happened, as you are aware, in a cottage at Whitburn, the cesspool to which was placed under the kitchen and pantry floor. During heavy rains this cesspool received all the watershed from the roof, and when in excess flooded the filth into the kitchen and pantry where the bread, food, &c., was kept. Words cannot describe the horrible effluvia in these rooms. On examining the food kept there I found the bread that was baked on the Saturday full of mildew and fungi on the Monday. How the people had existed there so long is entirely beyond my comprehension. Summer diarrhœa has been more prevalent this year than any for the last seven years, but in most cases of a very mild type, the excessive heat and abundance of fruit being the main cause.

The rate of mortality throughout your Union District, I am pleased to inform you is less this year than that of last, being only 18 per 1,000, showing 1 per 1,000 less this year; at the same time I maintain that this rate of 18 is too high for an entirely rural district.

I regret having to inform you I have received no regular and reliable returns of sickness from some of your Union Surgeons for the last 12 months in consequence of the repeated changes taking place, by these officers either resigning their appointments or leaving the neighbourhood.

I am, Gentlemen,

Your obedient Servant,

VAVASOUR SANDFORD.

M.D., L.R.C.P., Lond.; Surgeon, &c., &c.

Bridge House, Hereford, December 31, 1880.

THE WEOBLEY RURAL SANITARY AUTHORITY.

DIVIDED INTO TWO DISTRICTS.

Area : 49,959 Acres, consisting of 28 Parishes.

Population, about 9,131.

Houses, about 1,149.

Aggregate number of people to each house, 4 and a half.

Births for the year 1880, 230.

Deaths do. do. 153.

Rate of Mortality for the year 1880, 16·80 per 1,000.

Inspector of Nuisances for the Weobley District Mr. WM. LLOYD, Relieving Officer, Weobley, whose returns of work done for 12 months are as follow :—

Number of Nuisances found to exist in the Weobley					
District ... ..	...	...	...	...	119
Consisting of removal of Privies, altering Drains					
removing Pigstyes, and Privies and Cottages					
(common nuisances) ... ..	...	...	...	...	109
Overcrowding ... ..	...	...	...	...	7
Cottages Cleansed, Whitewashed and Disinfected					2
Houses condemned ... ..	...	...	...	...	1
					119

A House-to-House (fourth) Survey has been made under the Public Health Water Act, 1879, showing nature of Water supplied to every house, the quantity, quality, distance to be obtained, and how so obtained.

In the Dilwyn District

Inspector of Nuisances Mr. W. VAUGHAN, Relieving Officer, Dilwyn, whose return of work done for the 12 months is as follow :—

Nuisances found ... ..	...	...	...	...	89
Disinfected Houses where Scarlet Fever had been					14
Nuisances to remove ... ..	...	...	...	...	17

A House-to-House (fourth Survey) under the Public Health Water Act, 1879, has been made, showing nature of Water supplied to every house, the quality, quantity, distance to obtain, and so obtained.

TABLE OF NEW CASES OF SICKNESS, coming to the knowledge of the Medical Officer of Health, during the year 1880, in the Five Divisions of the Rural Sanitary District of the Weobley Union; classified according to Localities and Diseases.

NEW CASES OF SICKNESS, IN PERSONS BELONGING TO THE DISTRICT, DISTINGUISHING THOSE IN CHILDREN UNDER FIVE YEARS OF AGE.																			
NAMES OF LOCALITIES.		Continued Fevers.																	
1	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Other Diseases, such as Chicken Pox, or Pneumonia, which the Medical Officer of Health thinks well to record.	
	Under 5 upwds	..	7 13	4 7	2 4	2 4	6 8	..	Enteric or Typhoid.	Other or Doubtful.	Diarrhoea and Dysentery.	Cholera.	Rheumatic Fever	Erysipelas.	Pyæmia.	Puerperal Fever.	Ague.		
Weobley	Under 5 upwds	..	7 13	4 7	2 4	2 4	6 8	..	..	.. 1	9 8	..	..	.. 1	..	..	..	17	
Union Workhouse	Under 5 upwds	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	15	
Out-door Paupers	Under 5 upwds	..	..	..	..	..	3 1	..	..	..	.. 4	..	..	..	..	..	..	1 12	
Dilwyn District	Under 5 upwds	..	5 12	9 7	3 5	2 1	2 ..	..	..	..	2 6	..	..	..	..	..	..	5 17	
Out-door Paupers	Under 5 upwds	..	..	3 11	..	..	..	..	..	..	.. 3	..	.. 1	.. 1	..	..	..	11 80	
Totals	Under 5 upwds	..	12 25	16 25	5 9	4 5	11 9	..	..	.. 1	11 21	..	.. 1	.. 2	..	..	..	23 126	

THE WEOBLEY RURAL SANITARY AUTHORITY.

Gentlemen,—Although my report for this year is not of the most satisfactory character as regards the causes of mortality, still I have the pleasure of informing you the total number is 2 per 1,000 less this year than that of last, giving a decrease of about twenty deaths within your Union area. The tables of death reveal the fact of six having died from scarlet fever and seven from diphtheria; the balance are from those causes that may be expected in all Rural Districts and are not in excess of any other Rural District within the county. Touching upon the scarlatina outbreak in the Dilwyn district there can be no doubt about most of the cases of sickness from that fearfully infectious disease having originated in consequence of its being brought into a public school situated at Upper Hill in the Leominster district, at which school many children residing within your Union area in the Dilwyn district attended (both paupers and others), and although the tables of sickness from scarlatina only positively state thirty as being the number of cases in all classes of society, yet I am bound to state that very many more have been suffering, but from these families I can obtain no reliable information, they being *private* patients of medical gentlemen who refuse to furnish me with the necessary information thereon unless being remunerated for their trouble and being protected from censure from this class of patient, and perhaps the loss of them. On minute investigation I do not hesitate to say that about sixty cases would be nearer the total of scarlatina alone in this Dilwyn district, the infection, however, being spread over a large area and very straggling, bordering upon other Sanitary Boundaries, out of which many medical gentlemen came therefrom to attend these better class of patients; these gentlemen do not feel they are called upon to furnish me with this information on the grounds I have before mentioned, under the existing defective Public Health Act, 1875, there being no compulsory clause therein to enforce such from them.

Referring now to the seven deaths from diphtheria recorded in this table of deaths, six of this number are also in the Dilwyn district of your Union, five cases of diphtheria occurred, resulting in four deaths in the family of a well-to-do miller.

The house occupied by this man and family is situated very low, and behind it I found a mill dam fed by a *water course* running about twenty yards along, and by the side of these premises an arm is made or cut from such water course to feed the mill dam *at will*; in this mill dam the privy of the premises received all the excreta of the family and emptied such excreta into the mill dam. This state of things had existed for over a century, the mill dam being very seldom cleaned out or emptied, and at the time of this man and his family taking possession and coming to reside at the mill, such dam had not been worked or drawn off for some time before. On February 2nd (Candlemas Day) the man and his family took possession of the house and mill; a few days after the mill was put to work. Now this man had a son about 14 years of age, who was residing in a lady's family in London *as page*, and on or about the 5th February the boy fell ill; such illness was pronounced by the medical attendant of the family in town to be scarlatina; the boy was at once sent off to a fever hospital, where he passed through the fever stages, but left him very weak. On the 25th March the boy was pronounced to be able to leave the hospital, and after undergoing disinfection of *clothes* and every other precaution, was sent home by rail and arrived at the mill about seven o'clock on the 25th March in a very weak state. I ascertained after all was over, that his little brothers and sisters kissed him and sat on his lap, and *one slept with him* the night on his arriving home; the boy was allowed to go out amongst neighbours in the village and elsewhere to gain strength, and it was particularly noted that his breath was highly offensive when speaking, and a heavy discharge of fearfully offensive matter was continually taking place from the nostrils and excoriating the upper lip, &c. On the 29th March, or thereabouts, a child was taken ill at the mill with throat disease of some kind—(only four days, mind, from the day the boy came home from the hospital), and from that day to about three weeks after *the whole family* of four fine healthy children *had died*; the poor father then took the disease but recovered—the certificates of deaths recording all to be from *diphtheria*. Now, my reason for going minutely into details is the fact of the boy coming direct from the fever hospital in the state he was in. Would not such state breed a malignant character of disease all originating from scarlet fever?—and the raw and offensive surfaces of the boys nostrils and tonsils meeting with and inhaling thousands upon thousands of bacilli and bacteria from the pent-up dam behind the house and which reached up to the window sill of his bedroom? I would simply lay before my professional

readers and the Local Government Board these facts, and ask was it malignant scarlet fever, with suppressed rash, or true diphtheria that carried off this family? And when I mention the following fact also relative to the outbreak of scarlet fever in this district and the adjoining one (belonging to another Sanitary Authority), which broke out only a very short time after, I am convinced there will be evidence surely to cause very great doubt what the disease actually was. The scarlatina I allude to was brought into the schools situate at Upper Hill, Leominster, where, as I stated before, very many of the children belonging to the Dilwyn district of your Union attended, and there can be very little doubt such infection was brought by a girl (a well-to-do farmer's daughter) residing in the adjoining Leominster district, who attended the schools at Upper Hill—this girl did, on a certain day, the beginning of June (scarcely two months from the outbreak of diphtheria at the mill), visit the parish of Dilwyn and stopped in a house wherein diphtheria was reported to have been in the autumn of last year. She returned home and attended school, fell ill with scarlatina four days after, recovered, and not only infected (very many of the children attending there) but conveyed the disease to six of her brothers and sisters (three of whom died) of *malignant scarlet fever*, as the certificates of death positively state; but, stranger still to relate, her father at the same time was taken ill with decided symptoms of *diphtheria*, and nearly lost his life. He *had no rash* nor had one of the children *at the mill!* Now, I ask without prejudice, and in my official capacity, was not one and all the cases *of the same type?* In plain words, would the scarlet fever impregnated boy from London be *the cause of the fearfully fatal cases at the Mill returned as diphtheria?* And would the girl who *went to the Diphtheria infected place in this district* be the cause of the serious outbreak of malignant scarlet fever in her own family and the Leominster Schools, causing three of her brothers and sisters' deaths and many more in the Leominster District? The very fact of her father's illness, assuming diphtheria and not scarlet fever, when scarlet fever was raging in the same house, was to my thinking similar to the disease at the Mill, and the whole of the cases I cannot but regard as being of the same type, but assuming different aspects in different subjects.

Another matter bearing out my theory is that in *true Diphtheria* you seldom see whole families taken off *at once*, it is as subtle as a fox, carrying off one or two only out of a flock, whereas Scarlet Fever will sweep

off a whole family at times. I cannot but think I am right in this suggestion. When you refer back to my report for 1879 you will find that the fourteen cases reported to me as being *Diphtheria* cannot all surely be *true Diphtheria* when some recovered in a few days? Not but what there was enough and more than enough of insanitation to cause both malignant Scarlet Fever and *Diphtheria* about many of the premises where it occurred. Still the fact of one or two children dying so suddenly last year without any medical attendant being called in until death had taken place, these were, in some cases, set down *as from Diphtheria* also.

Take also the case of the young farmer's wife, residing about ten minutes' walk from the Mill, she died very suddenly! And undoubtedly (I am informed), had slight throat affection *first*, but no symptoms of *diphtheria* or rash from *Scarlatina*. In the words of her medical attendant "I was inclined to think she was sickening for something of the sort, but suddenly she died from brain affection and before death, became paralysed." This eminent medical gentleman was attending about the same time, the family of the girl whose brothers and sisters died of malignant *Scarlatina*, which I have before mentioned, and at the same time attending her father also for symptoms of *Diphtheria*.

The other cases of *Diphtheria* could be positively traced to be from an open mouthed drain in a cellar which had existed there for more than a century and the others from no visible want of sanitation. I have only now to draw your attention to the remarks made in the quarterly reports of the Registrar General for June last. He states that "no material change in the Weobley Union district has been made in the rate of mortality for the *last three years*." Why is this? In all other sanitary districts there is a marked diminution of mortality, showing the benefits of the Public Health Act.

I am, Gentlemen,

Your obedient servant,

VAVASOUR SANDFORD.

Bridge House, Hereford, December 31st, 1880.

SANITARY HINTS.

PURE DRINKING WATER.—Avoid, as far as you can, every water which can even be *suspected* of contamination with the filth from sewers, house drains, privies, cesspools, and the like. See that cisterns and water butts are clean, and especially that the overflow pipes do not open direct into any drain. Water should be clear, colourless, and without smell. Water can only be really tested by a difficult and careful chemical analysis. Drinking-water is the better for being filtered. A costless filter may be thus made:—Take a flower-pot and plug the hole, not too tightly, with a piece of sponge; add a layer of powdered animal charcoal about one inch thick, then the same quantity of clean sand, and on that some coarse gravel. The charcoal should be occasionally re-baked or washed with Condyl's Fluid; in epidemics of typhoid fever or cholera, the water should be boiled before filtration.

DRAINS, CLOSETS, &c.—Flush and, if possible, scrub and cleanse once daily with plenty of water, containing some disinfectant, as crude sulphate of iron, chloride of zinc, carbolic acid, or Cooper's Patent Salts. See that the traps are well charged with water, that they do not allow bad smells to escape in the house, and that the main house drain is ventilated by the rain water pipe, by charcoal air filters, or otherwise. The pan of every W.C. ought to have a tube or shaft attached to the soil pipe just below the trap of the pan; this tube ought to be carried rather above the roof or outside the house, not near any window or water cistern. A two-inch zinc pipe will answer every requirement to allow the gases to pass up such tube that may generate or be driven in the soil pipe from a main sewer or cesspool that the soil empties into; thus preventing any party using such W.C. from inhaling and being poisoned by such gas when the pan has been used and the handlo is being pulled up for flushing, cleansing, and emptying.

ASH AND PRIVY PITS.—Cover, so as to keep them dry, well drained, thoroughly spread over with ashes or dry earth, frequently emptied, sprinkle with a disinfecting powder—(McDougall's or Cooper's)—and be careful that no slops are thrown in. Decaying animal and vegetable refuse are sources of danger, and should be buried or dug into the earth away from houses. Remove all pigs, poultry, and rabbits, some distance from living rooms.

VENTILATION.—Keep rooms and passages sweet by opening doors and windows for admission of air. Fires greatly promote ventilation. Overcrowding is exceedingly dangerous. Whenever

possible, 500 cubic feet of air breathing space should be allowed to each individual in any sitting-room, bedroom, or work-room. Gas lights contaminate the air very rapidly. Pure air is less dependent on cubic space than on efficient ventilation, which may be secured by the following simple and economical method:—Raise the lower sash of the window two or three inches, and fill in the opening underneath the bottom rail with a piece of wood; this leaves a corresponding space between the meeting rails in the middle of the window, through which a current of air enters and is directed towards the ceiling, whence it should escape by a valvular opening. The fewer persons and things in a sick-room the better. Beds should be freely exposed to the air during the day, and soiled linen should not be kept waiting for washing in unventilated closets.

CLOTHING, FOOD, &c. —While warmth is kept up, transpiration should be free; in summer and autumn a broad flannel bandage should be worn round the abdomen, and the linen should be constantly changed. The food should be plain, fresh, wholesome, and sufficient; avoiding intemperance in both eating and drinking. Bodily weakness favours cholera, typhus, typhoid, and other fever, —therefore, avoid exhaustion, over-fatigue, and fear as much as possible. Milk, rice, meat, soups, potatoes, beans, peameal, bacon, entire wheaten bread and cheese are the cheapest nourishing articles of food. One of the most frequent causes of the early death of young children is improper feeding. The proper food of children is breast milk. When the mother and child are both healthy no other food is required for the first six months. When the child is first born no other food is required, and the practice of giving gruel, butter, honey, and castor oil to new-born babes is prejudicial to their health. When the mother has a deficiency of milk, cow's milk or Swiss milk is the best substitute. It should be given with a third of warm water and a little sugar. For the first six weeks the child should be suckled every two hours in the day and every three or four hours at night. Gradually as it gets older the intervals of feeding may be prolonged. Children should not be fed to keep them quiet but at regular intervals. Mothers should never fall asleep when suckling their babes, as this is one of the most frequent causes of suffocation in bed. A child should not be weaned suddenly, but by degrees, and ought not to have the breast after the ninth month. When the child has cut its front teeth it may have some light food, such as bread, baked finely ground wheaten flour, or milk biscuits, added to its milk, or "Liebig's Food;" and once a day, meat broth or beef tea, with bread or biscuits soaked in it; or the yolk of an egg lightly boiled; when it is a year and a half old, some fine chopped meat—but milk should form the principal part of its food. Solid meat and potatoes, fat pork and fish, which form the food of grown-up people, should on no account be given to children.

THE SICK ROOM.—Keep sweet by a small fire and plentiful supply of fresh air, as above described. Removed bed-curtains, window-hangings, and carpets. Sweep rooms daily, and let the floor be frequently rubbed with a damp cloth or dry rubbed, and when necessary chloride of lime or acetic acid sprinkled from time to time on the floor. Keep within reach of the patient a basin charged with disinfectant for him to spit into ; and have close at hand a tub or pail of diluted disinfecting fluid, into which should be immediately thrown any article of clothing removed from the patient. Instead of a pocket handkerchief use small pieces of rag, to be immediately burnt after use. A piece of mackintosh sheeting placed beneath the sheet or blanket of a bed prevents discharge soaking through. A tea-cup full of green copperas solution, 2lbs. to a gallon, put into the night pan before it is used by the patient renders the discharge harmless. Matters discharged from the body should be received in a vessel containing active disinfectants, as about half a pint of either of the following solutions, namely :— Of 2lbs of sulphate of iron in a gallon of water ; one quart of chloride of zinc to three quarts of water ; four fluid ounces of carbolic acid (Calvert's No. 5) to a gallon of water. Glasses, cups, and other utensils of the sick room should be cleansed before they are used by other persons. Hang, outside door of room, a sheet or old counterpane, and keep it moistened with some disinfecting solution.

INFECTED CLOTHING AND BEDDING.—Soiled linen, bedding, and such woollen articles as admit of washing, on being removed from the patient should be plunged into boiling water before they are taken from the room, and, in addition, for an hour or two, into a tub of solution of four fluid ounces of carbolic acid (Calvert's No. 5) to a gallon of water ; after this they can be boiled and washed. Cloth clothes, mattresses, beds, pillows, &c. (in the absence of a proper public disinfecting establishment, which should be so constructed that its temperature can be well regulated and maintained at from 240 dg. to 250 dg. Fahr for four or five hours), should be disinfected by smoking with brimstone, exposure in the open air, to the sun, if possible, or if raining in front of a large fire. Washing and lime-whiting of premises should be attended to periodically.

THE PATIENT.—Separate the sick person from the healthy as soon as possible. In cases of scarlet fever, on the seventh and eighth days, anoint the surface of the body twice a day with camphorated lard or palm oil, or wash with diluted Condyl's Liquid. When the patient is sufficiently strong let him take a warm bath, and afterwards be well washed with carbolic acid-soap and water. During a week or ten days from this time he may be kept apart, repeating every two or three days the disinfecting ablutions ; after which time he can, with safety, mix again with his family.

Scarlet Fever and Small Pox seldom spread beyond the sick-room when separation and disinfection have been properly used. Whenever children have sore throats or an eruption on the skin, they should be separated from the rest of the family until they have had medical advice or those symptoms have disappeared. Measles and Whooping-cough are contagious, and cases should be more carefully isolated and nursed than is usually done. In the event of death early burial is very desirable. Powdered charcoal, 2 lbs., Cooper's Patent Salts, or good Carbolate Powder, or sawdust nearly saturated with a solution of chloride or sulphate of zinc, placed in the coffin retards decomposition and putrefaction, or takes away offensive smells by absorbing noxious gases.

NURSES AND ATTENDANTS—Woollen dresses are to be avoided, and preference given to washing materials. Prevent contact, as much as possible, between attendants and inmates of the house. After handling the sick or things connected with them, let the nurse be careful immediately to wash her hands in diluted Condy's liquid, or with carbolic acid-soap.

DISINFECTANTS.—For *Nuisance Prevention*, as detected by the nose test, those most generally used are Chloride of Lime, Cooper's Salts, Condy's Fluid, Burnett's Liquid, Chloralum, Carbolic Acid, and its compounds. Chloride of Lime and Chlorine require care and experience in management; when used too freely in inhabited rooms, they give rise to irritation of the lungs and air passages. Burnett's Fluid and Carbolic Acid are most efficacious but are poisonous, and the latter possesses a very strong smell, which to many persons is extremely offensive. Ten pounds of sulphate of iron, five gallons of water, and half a pint of common carbolic acid form a good and cheap disinfectant for drain. Iodine, volatilized on a heated surface, is an excellent disinfectant, but is expensive. Carbolic Acid, Chlorozone, or Condy's Liquid improve the air when diffused by means of a large brush, a scent spray, or the hydronette syringe with rose. For *Infection Prevention*,—should be thorough—not diluted, applied in considerable strength; while the room is occupied by the living it is impossible to use volatile or aerial disinfectants in such quantity as to be of real service. When the room is vacated, to disinfect thoroughly, close the windows, stop up the chimney and every aperture and outlet from the room, and use sulphur in the proportion of 1½ oz. for every 100 cubic feet of space. The sulphur may be safely burnt in a shallow pipkin or coarse earthenware saucer containing some live coals or coke; the saucer should be supported on a pair of tongs laid across a pail of water, so that in case of accident the burning sulphur may fall into the water and do no injury. The room should be closed for twelve hours—then the wall papers should be removed, stripped off, and burnt; the walls, ceiling, floor, painted parts of the room and articles of furniture washed with

solution of carbolic acid, and the ceilings and walls lime-washed the room should be unoccupied and freely open to the external air for a fortnight, if possible, for plenty of fresh air is the truest, best, and cheapest disinfectant.

VACCINATION.—Every child should be vaccinated before the third month ; if delayed beyond that period, it may increase the irritation of teething. Skin rashes are often erroneously said to be caused by vaccination. All persons should be re-vaccinated after eight years of age,—and when Small Pox prevails in a family or neighbourhood.

Clergymen, medical practitioners, Scripture readers, and other persons interested in sanitary reform living in the district, are invited to inform the Medical Officer of Health, and the Sanitary Inspectors, of any nuisances which they discover in their neighbourhood—such communications to be considered strictly confidential. Every ratepayer has a right of complaint, and it is only by such co-operation that Sanitary Officers have a power of remedying nuisances and of checking the ravages of epidemic disease.

